

Diagnostic Engineering Publications

1410/7010

IBM POUGHKEEPSIE
December 31, 1965

Subject: Diagnostic Program W002G 1403 Forms Control Test

Sequence Number 545
Replaces W002F

This program uses System and Channel Control Cards -

System Control Card	W002	001
Channel One Control Card	W002	002
Channel Two Control Card	W002	003
Channel Three Control Card	W002	004
Channel Four Control Card	W002	005

The following changes were made to W002F to create W002G -

1. All references to channel 3 & 4 operation were deleted.
2. An error in the set up of a 100 character print buffer for channel 2 was corrected.
3. Changes & corrections were made to the Print Error and Forms Control Error Routines.
4. Changes and corrections to the "Time High Speed Skip" routine to increase timing accuracy, check for lower limit as well as upper limit and reduce the upper limit to detect skip time failures on the 1403 model 3.

Enclosures: 48

Pages

Card Deck for CARD ONLY SYSTEMS (as punched by UP51)
8 Cards - Card Loader (1-7) and 1 Core Clear
115 Cards No. 001-115 Data Cards
1 Card Execute Card

Distribution: X 1410 with 1403 Printer
X 7010

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W 0 0 2 G

1403 FORMS CONTROL TEST

12/31/64

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5.00.00.0 TEST DESCRIPTION

00.1 MODIFICATIONS

See Release Page for modifications to create this level.

00.2 DESCRIPTION

This diagnostic tests all possible forms control operations associated with a printed line such that a visual check for correctness can be made. High speed skip is also timed to insure that the carriage of the 1403 does enter a high speed skip on a skip of 29 lines.

The first sheet of the printed form will have a line of 100 nines, space 1 to 3 after print, space 1 to 3 immediate, skip 1 to 12 immediate and branch on channel 9 and 12. The second sheet of the form will have a line of 100 nines, space 1 to 3 after print, space 1 to 3 immediate, skip 1 to 12 after print, branch on channel 9 and 12, a test of the high speed skip, and (if applicable) a test of the space suppress feature.

Errors in spacing and skipping can be overlooked; therefore, it is suggested that the carriage tape be removed from the 1403 and compared carefully with the printed form. Sample printouts can be found in the appendix, section 5.00.07.0.

All error messages will occur on the typewriter because the numeric chain 1403 cannot print alphabetic information. Note also that the information printed during the test is entirely numeric and special characters when using a printer with a numeric chain (see appendix, section 5.00.07.0).

00.2 EQUIPMENT

1. 1414 Model III, IV or VIII.
2. 1403 Printer Model 1, 2, or 3 (with alpha or numeric chain).

00.4 CARD DECK

See bottom of Release Page for description of card deck.

00.5 E.C. LEVEL OF MACHINE

Not applicable.

5.00.01.0

LOADING PROCEDURES

01.1

FROM CARDS (Load Program L1A preceding Card Deck)

A. 1410 or 7010 without Load Button.

1. Display Memory Location 00000

2. Alter to

v v v
RL%1100011\$. Enter according to channel
vv v location of the card reader.
XL@1100011\$.

3. Set to Run, Computer Reset and Start.

B. 7010 with Load Button

1. Computer Reset

2. Depress Load Button

01.2

FROM TAPE

A. 1410 or 7010 without Load Button

1. Display Memory Location 00000

2. Alter to

v v v
RL%B000011\$. Enter according to channel
vv v location of the tape drive.
XL@B000011\$.

3. Set to Run, press Computer Reset.

B. 7010 with Load Button

1. Computer Reset

2. Depress Load Button

System and Channel control cards are used by this program. These cards must have the system and channel configuration in the proper columns of the cards before the program is loaded into core. (See listing of the program "1410/7010 INTRODUCTION vol 1.00, for punching information.)

5.00.01.3 **LOADING PROCEDURES (continued)**

A special printer carriage control tape must be used. It must be installed on the 1403 printer before the program is loaded into core. The tape should be punched as follows:

<u>Line</u>	<u>Channel</u>	<u>Line</u>	<u>Channel</u>
1	1	67	1
18	1	84	1
21	2	87	2
24	3	90	3
27	4	93	4
30	5	96	5
33	6	99	6
36	7	102	7
39	8	105	8
42	9	108	9
45	10	111	10
48	11	114	11
51	12	117	12
53	9	119	9
58	12	124	12

Cut off tape at line 132. Mount the tape in the 1403 and set the line spacing control for six lines per inch.

5.00.02.0

OPERATING PROCEDURES

For normal operation of the program no TADs or other information need be entered until the "REQ. SPACE SUPPRESS TAD" message occurs. At this time press Inquiry Request, enter a one to test space suppress or enter a blank to bypass space suppress test, and then press Inquiry Release.

If the program stops or hangs up during the pass, refer to section 5.00.04.0, Program Stops and Restarts, for information.

STANDARD TADs

TAD 0	Loc 01000	Off	1	Type all errors
		On	1	Bypass all error typeouts
TAD 1	Loc 01001	Off	1	Run complete program
		On	1	Loop in the same routine
TAD 2	Loc 01002	Off	1	Bypass all error halts
		On	1	Halt on all errors
TAD 3	Loc 01003	Off	1	One pass of program
		On	1	Repeat entire program

NOTE:

The "Program Alter Routine" is included in this test to allow the operator to alter any portion of the program, TADs, data fields, etc., with a minimum of effort at any time during the program pass. To use this routine press the 1415 INQUIRY REQUEST key and enter the five-digit address of the low order position of memory to be altered when the typewriter prints the letter "I" and spaces. After the address has been entered, press the Inquiry Release and the Inquiry Request again, the typewriter will again print an "I" and space. At this time the new information can be entered into memory. When the alterations are complete, press Inquiry Release and the program will resume the test.

If an error is made in typing in the address of core to be altered or the data, simply press Inquiry Cancel and press Inquiry Request once more.

5.00.03.0 OPERATING HINTS, COMMENTS

1. At the beginning of the test, the program identification will be typed. (If the program is repeated or restarted, the identification will not be retyped.) At the conclusion of the program pass a message, W002 EOJ, will be typed if tad 0 is Off. Therefore, a proper operation pass should appear on the console typewriter in the following format.

R W002X. where x represents test level.
R REQ SPACE SUPPRESS TAD
I 1
R W002 EOJ

2. If any messages occur other than listed in item 1., an error has been detected by the program.
3. If the message W002 EOJ does not occur, it is because either error timeouts have been bypassed (possibility of an error occurring which would not be indicated) or the program has not run to completion.
4. After a program pass, the 1403 output should be compared both with carriage tape and the sample printouts listed in the appendix section 5.00.07.0.
5. The 1403 output will be the same regardless of buffer size (100 or 132 characters).
6. If all of the following messages appear on a program pass; it indicates that the J (I) R (channel 1) instruction is not operating properly.

BRANCH ON CHANNEL 9 FAILED
BRANCH ON CHANNEL 12 FAILED
BRANCH ON CHANNEL 9 FAILED
BRANCH ON CHANNEL 12 FAILED
FORMS FAILED TO SKIP TO CHANNEL 12
1403 FAILED TO ENTER HIGH SPEED SKIP

5.00.04.0

PROGRAM STOPS AND RESTARTS

PROGRAM STOPS

This program does not contain any normal STOPs. All error STOPs are preceded by error messages and are under program (TAD) control. After any error stop, press Start to continue.

PROGRAM RESTARTS

A program restart may be accomplished at any time by simply pressing Computer Reset and Start.

PROGRAM HANG UP CONDITIONS

After the message "REQ SPACE SUPPRESS TAD" occurs, press typewriter INQUIRY REQUEST, enter the proper digit (1 or b) and then press INQUIRY RELEASE. The program will then continue.

Note: If a space or skip after print command is issued, a correct line must be printed before another forms control operation is attempted. If a restart is performed after a forms control operation (after print) and before the next line is printed, the program will hang up on busy.

5.08.05.0

TYPEOUTS

NORMAL TYPEOUTS

1. W002x (x represents test level). This is the test identification. The identification is typed only once when the program is first loaded.
2. NO CHANNEL SET ON SYSTEM CONTROL CARD. This message indicates that a channel was not available as punched on the systems control card.
3. REQ SPACE SUPPRESS TAD. This is a request for a space suppress control tad. Press Inquiry Request, enter proper tad (see section 5.08.02.0), and press Inquiry Release.
4. W002 EOJ. This typeout indicates the completion of one complete program pass.


ERROR TYPEOUTS

All error typeouts are self-explanatory. See the program listing for further information.

5.00.06.0 FLOW CHART

W002G

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5.00.07.0 APPENDIX

CORRECT 1403 OUTPUT

1. Figure I, sheets 1, 2, and 3 show the correct output on the 1403 printer with alpha chain and not entering a 1 for the Space Suppress TAD.
2. Figure II, sheet 1 shows page 3 of the correct output on the 1403 printer with alpha chain and entering a 1 for the Space Suppress TAD providing that your system does not have the Space Suppress Feature.

On systems with the space suppress feature, the last two lines of Figure II, sheet 1, should be superimposed upon one another so that it should appear as follows:

SPACE SUPPRESS PRINTER KKKKOK

WOOZ
014

SPACE 1 AFTER PRINT

SPACE 2 AFTER PRINT

SPACE 3 AFTER PRINT

SPACE 1 IMMEDIATE

SPACE 2 IMMEDIATE

SPACE 3 IMMEDIATE

SKIP TO CHANNEL 1 IMMEDIATE

SKIP TO CHANNEL 2 IMMEDIATE

SKIP TO CHANNEL 3 IMMEDIATE

SKIP TO CHANNEL + IMMEDIATE

SKIP TO CHANNEL S IMMEDIATE

SKIP TO CHANNEL 6 IMMEDIATE

SKIP TO CHANNEL ↵ IMMEDIATE

SKIP TO CHANNEL 8 IMMEDIATE

SKIP TO CHANNEL 9 IMMEDIATE

SKIP TO CHANNEL 10 IMMEDIATE

SKIP TO CHANNEL 11 IMMEDIATE

SKIP TO CHANNEL 12 IMMEDIATE

TEST BRANCH ON CHANNEL 9,140

TEST BRANCH ON CHANNEL 12, 1403

SPACE 1 AFTER PRINT
SPACE 2 AFTER PRINT

SPACE 3 AFTER PRINT

Figure I

Sheet 1.

SPACE 1 IMMEDIATE

SPACE 2 IMMEDIATE

SPACE 3 IMMEDIATE

SKIP TO CHANNEL 1 AFTER PRINT

Figure
Sheet 2

SKIP TO CHANNEL 2 AFTER PRINT

SKIP TO CHANNEL 3 AFTER PRINT

SKIP TO CHANNEL 4 AFTER PRINT

SKIP TO CHANNEL 5 AFTER PRINT

SKIP TO CHANNEL 6 AFTER PRINT

SKIP TO CHANNEL 7 AFTER PRINT

SKIP TO CHANNEL 8 AFTER PRINT

SKIP TO CHANNEL 9 AFTER PRINT

SKIP TO CHANNEL 10 AFTER PRINT

SKIP TO CHANNEL 11 AFTER PRINT

SKIP TO CHANNEL 12 AFTER PRINT

TEST BRANCH ON CHANNEL 9,1403

TEST BRANCH ON CHANNEL 12,1403

Figure I.
Sheet 3.

TEST HIGH SPEED SKIP 2 TO 12

HIGH SPEED SKIP O.K.

Figure II
Sheet 1.

TEST HIGH SPEED SKIP 2 TO 12

HIGH SPEED SKIP O.K.
SPACE SUPPRESS PRINTER ERROR
SPACE SUPPRESS PRINTER XXXXX

W002 - PRINTER FORMS CONTROL TEST
OPCODE OPERAND

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CT ADDRS INSTRUCTION

LOAD LINES 37
ORG 1000
01000

STANDARD TADS

TADO DC a a TYPE OUTPUT BYPASS TRYING
TAD1 DC a a NO LOOPS LOOP ROUTINE
TAD2 DC a a NO ERROR HALTS HALT ON ERR
TAD3 DC. a a ONE PROGRAM PASS REPEAT PROG
TAD4 DC a Ha

PROGRAM ALTER ROUTINE

PALT SBR PALTEX5
G DCH 3N
RCP PALT2E4
BEX1 *-16.H
BNT1 PALTEX
BA1 *E1
PALT2 RCPW O S
BEX1 *-16.H
BA1 *E1
PALTEX B O
7 01005 G 01084 B
1 01000
1 01001
1 01002
1 01003
1 01004
12 01023
10 01024 M ZTO 01059 R
7 01034 R 01024 M
7 01041 R 01079 G
7 01048 R 01055 H
10 01055 L ZTO 00000 R
7 01065 R 01055 H
7 01072 R 01079 G
7 01079 J 00000

STANDARD TYPE ROUTINE

PRT1 SBR PRT2E5
SBR PRT3E8
SCNRG 0,0
SAR PRT4E5
WCP O
BC81 *-16
BA1 *E1
PRT4 B O
7 01086 G 01135 B
7 01093 G 01127 B
12 01100 D 00000 00000 Q
7 01112 G 01148 A
10 01119 M ZTO 00000 H
7 01129 R 01119 2
7 01136 R 01143 H
7 01143 J 00000
1 01150

OPCODE INSTRUCTION

ORG	1239	CONTROL INFORMATION	01239
DCW	APM9PJO545#93		11 01249
ORG	1250	TEST IDENTIFICATION	01250
DCW	AM002G@.G		5 01254

***** STANDARD SYSTEM CONTROL CARD. *****

	ORG	1256	CHARACTER & PURPOSE	COL	01256
SYS1	DC	a a	ALPHA 0,1,X - 1410,1410ACC,7010 13		1 01256
E1	DC	a a	0,1,3,5,7,9-10,20,40,60,80,100K 14		1 01257
E2	DC	a a	SPARE	15	1 01258
E3	DC	a a	1,2-CHNL1 100,132 CHAR PRINTER 16		1 01259
E4	DC	a a	1,2-CHNL2 100,132 CHAR PRINTER 17		1 01260
E5	DC	a a		2	01262
E7	DC	a a	1 - OVERLAP	20	1 01263
E8	DC	a a	1 - PRIORITY ALERT	21	1 01264
E11	DC	a a	SPARES	22-24	3 01267
E12	DC	a a	1 - CHANNEL ONE PRESENT	25	1 01268
E13	DC	a a	1 - CHANNEL TWO PRESENT	26	1 01269
	DC	a	a NOT INTERROGATED	18	01287
	DC	a#a		1	01288

W002 - PRINTER FORMS CONTROL TEST
LABEL OPCODE OPERAND

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W002 CT ADDRS INSTRUCTION

***** STANDARD CHANNEL 1 CONTROL CARD. *****

	ORG	1289	CHARACTER & PURPOSE	COL
CHN1	DC	a	a NOT INTERROGATED	01289
	616 DC	a a	P - 1403 PRINTER	29
	617 DC	a a	A,N - ALPHA,NUMERIC PRINT CHAIN	30
	618 DC	a a	1.2 - 100,132 CHAR PRINT BUFFER	31
	DC	a	a NOT INTERROGATED	16
	DC	a	a	01305
	DC	a	a	1
				01306
				1
				01307
				1
				16
				01325
				18
				01343
				2
				01345
				2

***** STANDARD CHANNEL 2 CONTROL CARD. *****

	ORG	1346	CHARACTER & PURPOSE	COL
CHN2	DC	a	a NOT INTERROGATED	01346
	616 DC	a a	P - 1403 PRINTER	29
	617 DC	a a	A,N - ALPHA,NUMERIC PRINT CHAIN	30
	618 DC	a a	1.2 - 100,132 CHAR PRINT BUFFER	31
	DC	a	a NOT INTERROGATED	16
	DC	a	a	01362
				1
				01363
				1
				01364
				1
				18
				01382
				18
				01400
				2
				01402

TEST STARTS HERE

ORG 2000 02000
NOP 1 02000 N
SWI B INID 1 02001 J 06057
CW SW1 7 02001 J 06057
SET IDENT BYPASS 6 02006 B 02031
CS 99 6 02014 / 00099
MRCNG RSTART.1 12 02020 D 07025 00001 0
SET INDEX 11 02032 . 00030 00035
REGS 11 02043 . 00040 00045
2 6 02054 S 00049
S THRU 1 02060 S
S 5 1 02061 S
S 5 1 02062 S
S CHSV 6 02063 S 06955
MLNA ADD1,STARAD 12 02069 D 06950 06936 /
MLNA ADD2,STOPAD 12 02081 D 06965 06941 /
BCE CHAN1,SYSL12,1 12 02093 B 02214 01268 1
BCE CHAN2,SYSL13,1 12 02105 B 02426 01269 1
BCE END,CHSV,1 12 02117 B 06168 06955 1
PRT1 7 02129 J 01066
DCH a NO CHANNEL SET ON SYS CTL CDA,G 29 02164
RCP SYS1E12 10 02166 H ZT0 01268 R
BEX1 *-16,M 7 02176 R 02166 H
G BAI *61 7 02183 R 02190 H
G B 2000 7 02190 J 02000
G DCW AN 17 02213
a FILLER

TEST CONTROL FORMS
W002 - PRINTER OPERAND
OPC00
LABEL

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CT ADDRS **INSTRUCTION**

CHAN1 SBR CHANR3
 BCE *68,CHAN16,P
 B CHANR
 MLCS ONE,CHSV
 S X2
 NOP
 BCE *620,CHAN16,17,N
 MLCA ALPH,CHAIN
 B *613
 MLCA NUM,CHAIN
 BCE AAA1,CHAN16,18,1
 MLCS ABCDDE6,POUT&100
 MLCS TWO,SIZE
 B AAA2
 ABCD
 AAA1
 MLCS WMGM,POUT&100
 MLCS ONE,80LOH
 AAA2
 ABCD
 AAA1
 MLCS CHIU,CHCODE
 MLCS CHIS,CHSTAT
 B CHSST
 TITLE
 START

BR IF CHAN.1 1403
 RETURN TO PROGRAM
 SET CHAN AVAIL
 RESET X2
 .
 1 02258 N
 12 02259 8 02290 01306 N
 12 02271 D 06972 06971 T
 7 02283 J 02302
 12 02290 D 06973 06971 T
 12 02302 B 02345 01307 1
 12 02314 D 02344 09800 7
 12 02326 D 07035 06954 3
 7 02338 J 02369
 12 02345 D 07034 06954 3
 12 02357 D 07033 09800 7
 12 02369 D 07034 06942 3
 12 02381 D 06946 06944 3
 12 02393 D 06950 06943 3
 7 02405 J 06216
 7 02412 J 04233
 7 02419 J 03062

BR IF NUMERIC CHAIN
 BR IF 100 CHAR BUFF
 MOVE A BLANK
 80L MOD TO 1
 SET S TO CHAN ALTER
 SET R TO CHAN ALTER
 GO TO ALTER PROGRAM
 PRINT LINE OF 9 S
 GO TO START PRINTER

LABEL	OPCODE	OPERAND	INSTRUCTION
CHAN2	SBR	CHAN&5	06166 B
BCE		*E8,CHN2&16,P	02452 01362 P
8		CHANR	06161
MLCS	ONE,CHSV	07034 06955 3	02452 D
S		X2	02464 S 00034
NOP			02470 N
BCE		*E20,CHN2&17,N	02502 01363 N
MLCA		ALPH,CHAIN	02483 0 06971 T
8		*E13	02495 J 02514
MLCA		NUM,CHAIN	02502 D 06973 06971 T
BCE		AAA3,CHN2&18,1	02514 B 02557 01364 I
MLCWS	A	ABCD&6,POUT&100	02526 D 02344 09800 7
MLCS	TWO,SIZE		02538 D 07035 06954 3
B			02550 J 02581
MLCS	ONE,SIZE		02557 D 07034 06954 3
AAA3			02569 D 07033 09800 7
MLCWS	WNGM,POUT&100		02581 D 07035 06942 3
MLCS	TWO,BOLDM		02593 D 06947 06944 3
MLCS	CH2U,CHCODE		02605 D 06951 06943 3
B			CHSTT J 06216
AAA4			02617 J 04233
MLCS	CH2S,CHSTAT		02624 J 04233
B			02631 J 03062
G			02638 L
B			03062
			PRINT LINE OF 9 S
			086 H
			3062

CT ADDRS INSTRUCTION

LABEL OPCOD OPERAND

SPACE AFTER PRINT ROUTINE

START	S X3	RESET X3 TO ZERO	6 03062 S 00039
	CS POUT&50	CLEAR PRINT AREA	6 03068 / 09750
	BCE *E13,CHAIN,A	BR IF ALPHA CHAIN	12 03074 B 03098 06971 A
	MLNA ADD4,X3	MOVE NUMERIC ADDR.	12 03086 D 06970 00039 /
	MLCHS WMGM,POUT&132	SET WMGM FOR 132	12 03098 D 07033 09832 7
	BCE *E13,SIZE,2	BR IF 132 CHAR	12 03110 B 03134 06954 2
	MLCHS WMGM,POUT&100	SET WMGM FOR 100	12 03122 D 07033 09800 7
	MRCG MESS1EX3,POUT	MOVE SPACE 1 AFTER	12 03134 D 070H2 09700 S
	CC /	SPACE 1 AFTER	2 03146 F /
	BCBL *-8		7 03148 R 03146 2
	BA1 FORER		7 03155 R 05045 H
	BNQ PALT		7 03162 J 01035 Q
	BCE SPA1,TAD1,1	BR IF LOOP	12 03169 B 03146 01001 I
	W POUT	PRINT SPACE 1 AFTER	10 03181 H 220 09700 W
	BCBL *-16		7 03191 R 03181 2
	BA1 PERR		7 03198 R 05531 H
	BNQ PALT		7 03205 J 01005 Q
	BCE WRI,TAD1,1	BR IF LOOP	12 03212 B 03181 01001 I
	CS POUT&50	CLEAR PRINT AREA	6 03224 / 09750
	MRCG MESS3EX3,POUT	MOVE SPACE 2 AFTER	12 03230 D 07143 09700 S
	SPA2 CC S		2 03242 F S
	BCBL *-8		7 03244 R 03242 2
	BA1 FORER		7 03251 R 05045 H
	BNQ PALT		7 03258 J 01035 Q
	BCE SPA2,TAD1,1	BR IF LOOP	12 03265 B 03242 01001 I
	W POUT	PRINT SPACE 2 AFTER	10 03277 H 220 09700 W
	BCBL *-16		7 03287 R 03277 2
	BA1 PERR		7 03294 R 05531 H
	BNQ PALT		7 03301 J 01035 Q
	BCE WR2,TAD1,1	BR IF LOOP	12 03308 B 03277 01001 I

CT ADDRS INSTRUCTION

LABEL	OPCODE	OPERAND	
CS	POUT650	CLEAR PRINT AREA	6 03320 / 09750
MRCC	MESS4EX3,POUT	MOVE SPACE 3 AFTER	12 03326 D 071B4 09700 S
CC	1		2 03338 F T
SP3	BCB1 •-8		7 03340 R 03338 2 G
	BA1 FORER		7 03347 R 05045 H
	BNQ PALT		7 03354 J 01005 Q
	BCE SPA3,TAD1.1	BR IF LOOP	12 03361 B 03338 01001 I
WR3	W POUT	PRINT SPACE 3 AFTER	10 03373 W 220 09700 W
	BCB1 •-16		7 03383 R 03373 2 G
	BA1 PERR		7 03390 R 05531 H
	BNQ PALT		7 03397 J 01005 Q
	BCE WR3,TAD1.1	BR IF LOOP	12 03404 B 03373 01001 I

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OPCODE OPERAND
LABEL

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CT ADDRS INSTRUCTION

SPACE IMMEDIATE ROUTINE

CS POUT650
MRCG MESS66X3,POUT

SP11 CC J MOVE SPACE 1 IMED.
BCB1 *-8
BA1 FORER
BNQ PALT
BCE SPI1,TAD1,1 BR IF LOOP

WR4 W POUT
BCB1 *-16
BA1 PERR
BNQ PALT
BCE WR4,TAD1,1 BR IF LOOP

CS POUT650
MRCG MESS66X3,POUT

SP12 CC K MOVE SPACE 2 IMED.
BCB1 *-8
BA1 FORER
BNQ PALT
BCE SPI2,TAD1,1 BR IF LOOP

WR5 W POUT
BCB1 *-16
BA1 PERR
BNQ PALT
BCE WR5,TAD1,1 BR IF LOOP

6 03416 / 09750
12 03422 D 07105 09700 S

2 03434 F J
7 03436 R 03434 G
7 03443 R 05045 H
7 03450 J 01005 Q
12 03457 B 03434 01001 I

10 03469 M Z20 09700 W
7 03479 R 03469 G
7 03486 R 05531 H
7 03493 J 01005 Q
12 03500 B 03469 01001 I

6 03512 / 09750
12 03518 D 071F6 09700 S

2 03530 F K
7 03532 R 03530 2 G
7 03539 R 05045 H
7 03546 J 01005 Q
12 03553 B 03530 01001 I

10 03565 M Z20 09700 W
7 03575 R 03565 2 G
7 03582 R 05531 H
7 03589 J 01005 Q
12 03596 B 03565 01001 I

W002 - PRINTER FOR MS CONTROL TEST
OPCODE OPERAND

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CT ADDRS INSTRUCTION

CS	POUT650	CLEAR PRINT AREA
MRCG	MESS7EX3,POUT	MOVE SPACE 3 IMED.
SPI3	CC L	
BCB1	*-8	
BA1	FORER	
BNQ	PALT	
BCE	SPI3,TADI.1	BR IF LOOP
WR6	W POUT	PRINT SPACE 3 IMED.
BCB1	*-16	
BA1	PERR	
BNQ	PALT	
BCE	WR6,TADI.1	BR IF LOOP
FSPI	B *61	GO TO SKIP IMED.OR AFTER

W002 - PRINTER FOR MS CONTROL TEST

OPCODE OPERAND

W002 **FACTORY ADDRESS** **INSTRUCTION**

PAGE 2

ROUTINE MEDICINE

ALTER BRANCH ADDRESS	ADD\$,FSPIEGS	MLNA	SKIP1	S	S	MLCS	ONEEX4,SKICK1	MRGG	MLCA	SKIL
RESET X4	X5	S	AND X5	SKIR	CS	MESS6CX3,POUT	MESS6CX3,POUT6	CC	CHAN NO. TO PRINT	SKIP IMMEO.
MOVE SKIP MODIFIER	MOVE SKIP MODIFIER	MLCA	CLEAR PRINT AREA	OUTCSO	OUTCSO	MESSAGE	MESSAGE	1	CHAN NO. TO PRINT	CHAN NO. TO PRINT

PRINT SKIP IMMED. X
POUT M 03788 M 0320 09700 M
7 03798 R 03788 2
03805 R 05531 M
7 03812 J 01005 Q
7 03819 B 03772 01001
12 03831 A 07035 00049
11 03842 A
1 ADD 1 TO X4
12 BCE 03862 03773
7 03855 J 03730
8R IF NOT SKIPPED 1-12.
8R IF NOT SKI 12. SKI 1.2

B R A N C H O N C H A N N E L 9 A N D 1 2

CS CATCH912
POUT99
CLEAR PRINT AREA
SKIP TO 9 IMAGE.

```
8PC8      -6  
     BCC9    CH90k  
     BCE    CH9H.TADO.1  
     BCE    DCM  
     B     PRTR  
     B     28RANCH.ON CHANNEL  
     B     #62.TAOZ.  
     B     BR IF BYPASS HALT  
     B     BR IF BYPASS ERROR  
     B     OR IF CHAN 9  
     B     WAIT FOR 1603 TO 9
```

MRCG MESS96X3.POUT
MOVE CHAN 9 BR MESS96X3.POUT
PRINT BR ON CHAN 9
POUT
CHAN 9
BCB1
--16
BAI
PERR
PAUT
BNG
WE77TA01
ACC

SKIP TO CHAN 12 IMED

BCB1 **a** **BCB1** **BCB1** **BCB1**

BAI **FORER** **BPCB** **BCV** **BCE** **BCE** **DCW** **BCE**

***-8** ***-6** ***-6** **CH12OK** **CH12H,TADO,1** **PRT1** **ABRANCH ON CHANNEL 12**

WAIT FOR 1403 TO 12

BR IF BYPASS ERROR

BR IF FILED A.G

BR IF BYPASS HALT

CH12H

CHIZOK
SONG
PALT
SKILLZTAOL
ACE
OR
GOOG

W002 - PRINTER FOR MS CONTROL TEST

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LABEL

OPCODE OPERAND

CT ADDRS INSTRUCTION

CS POUTC99 CLEAR PRINT AREA
NRCC MESSLOCK3,POUT MOVE CHAN 12 BR MESS
H POUT PRINT BR ON CHAN 12
WR6 0-16 04153 D 07262 09700 8
SCB1 0-16 04165 M 220 09700 H
BA1 PERR
SNQ PA1T
ECE MRS,TAG1,1 BR IF Loop

C FSP165,ADD6 SEE IF PAGE 2
SU TITLE OR IF NOT
E TIMES GO TO TIME HIGH SPO

* COME HERE TO PRINT LINE OF 9 S

TITLE CS POUTC99 CLEAR PRINT AREA
SN POUT SET MN TO STOP MOVE
PLCS MINE,POUTC99 MOVE A MINE
ALCB POUTC99,POUTC98 MOVE #9 MORE
H POUT PRINT LINE OF MINES
SCB1 0-16 04239 / 09799
BA1 PERR
CS POUTC99 START
60 TO 00 NEXT PAGE

W002 - PRINTER FOR MS CONTROL TEST
OPCODE OPERAND

W002 PAGE 32
CT ADDRS INSTRUCTION

SKIP AFTER PRINT

SKIPA MLNA ADD6,FSPIES
S X5
S RESET X5
S AND X4
SKAR MLCS AND6XX4,SKA61
CS POUT650
MRCG MESS11EX3,POUT
MLCA MOD6X5,POUT618
CC A SET SKIP AFTER
BCB1 --8
BA1 FORER
W POUT
PRINT SKIP AFTER MESS
BCB1 --16
BA1 PERR
BNQ PALT
BCE SKA,TADI,1 BR IF LOOP
A TWO,X5 ADD 2 TO X5
A ADD 1 TO X4
BCE BCH912,SKA61,B BR IF SKIPPED TO 12
B SKAR BR IF NOT
12 04306 D 06993 03709 /
6 04318 S 00049
1 04324 S
12 04325 D 07470 04368 3
6 04337 / 09750
12 04343 D 073H4 09700 3
12 04355 D 074J7 09718 1
2 04367 F A
7 04369 R 04367 2
7 04376 R 05045 H
10 04383 H 320 09700 H
7 04393 R 04383 2
7 04400 R 05531 H
7 04407 J 01005 Q
12 04414 B 04367 01001 1
11 04426 A 07035 00049
1 04437 A
12 04438 B 03862 04368 0
7 04450 J 04325

W002 - PRINTER FOR MS CONTROL TEST
LABEL OPCOD OPERAND

W002 PAGE 33
CT ADDRS INSTRUCTION

TIME HIGH SPEED SKIP

TIMES	S	ACCUM	RESET TIME ACCUM.	6 . 04457 S 06999 G
	BA1	*61	SKIP IMMED. TO 2	7 04463 R 04470 H
	CC	2		2 04470 F 2
	BCB1	*-8		7 04472 R 04470 2
	BA1	FORER		7 04479 R 05045 H
	CS	POUT650		6 04486 / 09750
		MESS126X3,POUT	MOVE TEST HIGH SPEED	12 04492 D 073C6 09700 S
	W	POUT	PRINT MESSAGE	10 04504 H 220 09700 W
	BCB1	*-16		7 04514 R 04534 2
	BA1	PERR		7 04521 R 05531 H
	MLCA	TIMX,TIMC	MOVE 7010 TIME CONST.	12 04528 D 07008 07017 T
	BCE	*E37,SYSL,X	BR IF 7010	12 04540 B 04588 01256 X
	MLCA	TIM10,TIMC	MOVE 1410 TIME CONST.	12 04552 D 07014 07017 T
	BCE	*E13,SYSL,O	BR IF	12 04564 B 04588 01256 O
	MLCA	TIM11,TIMC	MOVE 1410 ACCELERATOR	12 04576 D 07011 07017 T
	S	ACCUM		6 04588 S 06999
	BPCB	*-6	WAIT FOR NOT BUSY	7 04594 J 04594 R
			SKIP IMMED. TO 12	2 04601 F 2
	CC	a		7 04603 R 04601 2
	BCB1	*-8	ADD LOOP TIME TO ACCUMULATOR	11 04610 A 07017 06999
G	A	TIMC,ACCUM	KEEP ADDING WHILE CARRIAGE BUSY	7 04621 J 04610 R
G	BPCB	*-17		7 04628 R 04635 H
	BA1	*E1		
G	BCV	CKTIME	CHECK ON TIME ACCUMULATED	7 04635 J 04712 a
G	BCE	HS12H,TADO,1	BR IF BYPASS ERROR	12 04642 B 04734 01000 1
	B	PRT1		7 04654 J 01086
G	DCW	a FAILED TO SKIP TO CHANNEL 12a,G		29 04689
G	DCW	aNA		1 04691
G	BCE	*E2,TAD2,	BR IF BYPASS HALT	12 04692 B 04735 01002
	HS12H	H		1 04704
	BNQ	PAINT		7 04705 J 01005 0

W002 - PRINTER FOR MS CONTROL TEST

LABEL	OPCODE	OPERAND	CT	ADDRS	INSTRUCTION
CKTIME	G	C			ACCUM, ZEROS
	G	BE	*E19		IF SO IT FAILED
	G	C	ACCUH, TOTAL		COMPARE TO 180 MILLISECS
	G	BH	HSOK		TOOK LESS THAN 180 MILLISECS
	BCE	HSFH, TADO, 1			BR IF BYPASS ERRORS
	B	PRTL			
DCM			2 1403	FAILED TO ENTER A	
DC			2 HIGH SPEED SKIP A,G		
	BCE	BCE	*E2,TAD2.		
H					
BNQ			PALT		
B			SSUP		
HSOK		CS	POUT650		
		MRCC	MESS13EX3, POUT		
WR9		H	POUT		
		BC81	*-16		
		BA1	PERR		
		BNQ	PALT		
6	BCE		TIMES, TADI, 1	BR BACK IF LOOP TAD SET TO 1	
	B		SSUP		

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CT	ADDRS	INSTRUCTION
11	04712	C 06999 05289
7	04723	J 04748 S
11	04730	C 06999 07005
7	04741	J 04832 U
12	04748	S 04835 01000 1
7	04760	J 01086
21	04787	
16	04803	
12	04805	S 04818 01002
1	04817	.
7	04823	J 01035 Q
7	04825	J 06093
6	04832	/ 09750
12	04838	D 073F8 09700 S
10	04850	H 220 09700 H
7	04860	R 04850 2
7	04867	R 05531 H
7	04874	J 01005 Q
12	04881	S 04457 01001 I
7	04893	J 06095

W002 - PRINTER FOR MS CONTROL TEST

OPCODE OPERAND

LABEL

OPCODE **OPERAND**

**CT ADDRS INSTRUCTION
M002 PAGE 35**

SPACE SUPPRESS ROUTINE

SPSUP	SBR	SPSUPRE5
CS	MRCG	POUT650
	W	MESS14EX3•POUT
	BCB1	POUT
	BA1	*-16
	CC	PERR
	BCB1	-
	BA1	*-8
	CS	FORER
		POUT650
	MRCG	MESS15EX3•POUT
	W	POUT
	BCB1	*-16
	BA1	PERR
	BNG	PALT
	BCE	SPSUP67•TAD1•1
	MLCS	9999•SST
		enclosure

FORMS CONTROL ERROR ROUTINE

```

FORER    SBR    FORERR&5
          SBR    MOVEI<5
          S     E15,MOVEI<5
MOVEI    MLCA   O,FMESS&9
          SAR    LOC
          A     E1,LOC
MLNA    LOC,FMESS&20
          B     TIND1
          G     MLCB  WKAI,STIND
          BCE   FHALT,TAD0,1
          B     PRT1
          FMESS G  DCW   a INSTR. LOC.      a
          STIND G  DCW   a IND SET a      STATUS INDICATORS SET
          G     DCW   aN    a             FILLER
          G     DCW   aN    a             a FILLER
FHALT   BCE   *E2,TAD2,
          H     BCE   *E2,TAD2,
          FORERR B   0
NRDY    B     PRT1
          DCW   a 1403 NOT READY a.6
MLNA    DCW   LOC,*66
          H     0
          G     H
ZERO$ G  DCW   000000
          ORG   5531
          FIELD OF ZEROS
          6   05289
          05531

```

W002 - PRINTER FOR MS CONTROL TEST
OPCODE OPERAND

LABEL

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W002
CT ADDRS INSTRUCTION

PRINT ERROR-ERROR ROUTINE

PERR	SBR	PERREX6S	
	SBR	MOVEP&5	
S		€15,MOVEP&5	
MOVEP	HLCA	0,PMESS&17	
	SAR	LOC	
A		€1,LOC	
MLNA	LOC,PMESS&28	TIND1	60 TO SAVE INDICATORS
B		PHALT,TAD0,1	
	BCE	PRT1	
B	DCW	2 INSTR.	
PMESS		NRDY,WKA1-4,1	
	BCE	PDCK,WKA1-3,4	
	BCE	PCOND,WKA1-2,8	
	BCE	PWLR,WKA1,B	
	BCE	PNT,WKA1-1,A	
	BCE	*€2,TAD2,	
	PHALT	H	
	BCE	0	
	PERREX		

W002 - PRINTER FOR MS CONTROL TEST

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LABEL	OPCODE	OPERAND
P0CK	B	PRT1
	DCW	a CPU TO 1414 III DATA XFER ERROR a.G
	B	PHALT

LABEL	OPCODE	OPERAND
PMLR	B	PRT1
	DCW	a 1403 WRONG LENGTH RECORD a.G
	B	PHALT

LABEL	OPCODE	OPERAND
PNT	B	PRT1
	DCW	a 1403 NO TRANSFER ERROR a.G
	B	PHALT

LABEL	OPCODE	OPERAND
PCOND	C	MLCB POUT&30.LINESSET
	B	PRT1
	C	DCW a S/B a
	G	LINESSG a.G
	C	DCW aN a
	B	PHALT

LABEL	OPCODE	OPERAND
PMLR	B	PRT1
	DCW	a 1403 WRONG LENGTH RECORD a.G
	B	PHALT

LABEL	OPCODE	OPERAND
TIND1	B	PRT1
	DCW	a 1403 NO TRANSFER ERROR a.G
	B	PHALT
	H	

STATUS INDICATOR TEST ROUTINE

LABEL	OPCODE	OPERAND
TIND1	SBR	TINDIRE5
	MLCA	INDS,WKAL1
	BNR1	*613
	MLCS	9999.WKAL-4
	BER1	*613
	MLCS	9999.WKAL-3
	BEF1	*613
	MLCS	9999.WKAL-2
	BNT1	*613
	MLCS	9999.WKAL-1
	BUL1	*613
	MLCS	9999.WKAL
	TIND1	B 0

CT	ADDRS	INSTRUCTION
7	05734	J 01086
33	05773	
7	05775	J 05714

CT	ADDRS	INSTRUCTION
12	05782	D 09730 05836 L
7	05794	J 01086
5	05805	
31	05836	
12	05849	
7	05850	J 05714
7	05857	J 01086
25	05888	
7	05890	J 05714
7	05897	J 01086
23	05926	
7	05928	J 05714
1	05935	

CT	ADDRS	INSTRUCTION
7	05936	G 06055 B
12	05943	D 06978 06983 T
7	05955	R 05974 1
12	05962	D 09999 06979 3
7	05974	R 05993 4
12	05981	D 09999 06980 3
7	05993	R 06012 8
12	06000	D 09999 06981 3
7	06012	R 06031 B
12	06019	D 09999 06982 3
7	06031	R 06050 -
12	06038	D 09999 06983 3
7	06050	J 00000

TEST - **CONTROL FOR MS**
002 - PRINTER FOR OPERAND
OPCODE LABEL

IDENTIFY THE COMING

INDICES

SBR **BAI** **HCP** **BAI** **O**

61 **1250** **-16**

INDICES

**THE
SOUTHERN
CLIMATES
OF
THE
UNITED
STATES**

PRTI **SSUP** **DCW** **RCP** **SST** **BEX1** **BA1** ***61** **SPSUP, SST, 1**

AREQ-SPACE **SUM** ***-16, M**

CHAN

GO TO TEST NEXT CHANGING CHANNELS

END

BCE **2000, TAD3, 1**

BCE **400, TAD0, 1**

8 **PRT1**

DCW **aw002**

EOJA

400

TYPE IDENT.

INSTRUCTION ADDRESS

06057	G	06093	89X
06064	R	06071	26X
10	M	270 01250	W
7	R	06071	00000
7	R	06081	06088
7	R	06090	06099

W002 - PRINTER FOR MS CONTROL TEST
LABEL OPCODE OPERAND

CT ADDRS INSTRUCTION

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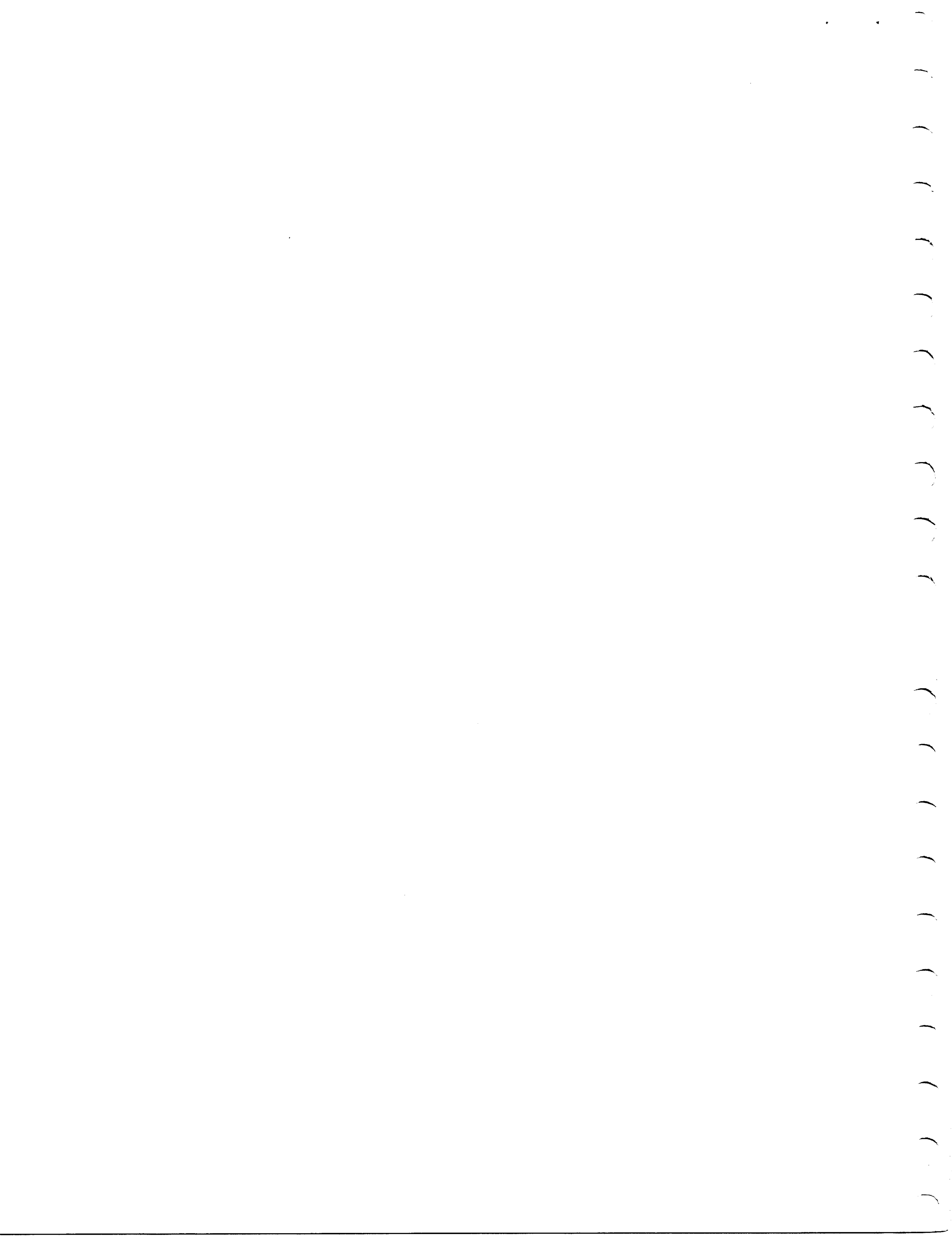
* CHANNEL ALTER ROUTINE

CHSTT	SBR	CHSTR&5		7	06216	C 06591 B	
MLNA	STARAD	SCAN&10		12	06223	D 06936 06268 /	
SW	25			6	06235	0 00025	
S	29			6	06241	S 00029	
A	E1.29			11	06247	A 09607 00029	
SCAN	SCNLB	9999.0		12	06258	D 09999 00000 -	
SBR	ADDHLD			7	06270	G 06931 B	
A	ONE,ADDHLD			11	06277	A 07034 06931	
C	ADDHLD,STOPAD			11	06288	C 06931 06941	
BE	CHSTTR			7	06299	J 06586 S	
MLNA	ADDHLD,*E6			12	06306	D 06931 06323 /	
MLCS	0.*E12			12	06318	D 00000 06341 3	
BCE	CHINS,KL,M			12	06330	B 06397 06906 H	
BCE	STINS			1	06342	B	
BCE	STINS			6	06343	B 06428	
BCE	STINS			1	06349	B	
BCE	STINS			1	06350	B	
BCE	STINS			1	06351	B	
BCE	OLINS			6	06352	B 06459	
BCE	FORMS			6	06358	B 06822	
BCE	OLINS			1	06364	B	
BCE	FORMS			1	06365	B	
BCE	OLINS			1	06366	B	
UPDATE	S	E1,ADDHLD		7	06390	J 06258	
MLNA	ADDHLD,SCAN&10			11	06367	S 09607 06931	
B	SCAN			12	06397	D 06931 06419 /	
CHINS	MLNA	ADDHLD,*E11		12	06409	D 06944 00040 3	
MLCS	CHCODE,0E11			7	06421	J 06367	
B	UPDATE			12	06428	D 06931 06450 /	
STINS	MLNA	ADDHLD,*E11		12	06440	D 06943 00000 3	
MLCS	CHSTAT,0			7	06452	J 06367	
B	UPDATE			11	06459	A 09608 06931	
OLINS	A	E6,ADDHLD		12	06470	D 06931 06487 /	
MLNA	ADDHLD,*E6						

W002 - PRINTER FOR MS CONTROL TEST

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CT ADDRS

LABEL	OPCOD	OPERAND	CT	ADDRS
	MLCS	0.*E12	12	06482 D 00000 06505 3
	BCE	OL,K2,1	12	06494 B 06555 06926 1
	BCE		1	06506 B
	BCE		1	06507 B
	BCE		1	06508 B
	BCE	BPC80	6	06509 B 06593
	BCE	BCB0	1	06515 B
	BCE		6	06516 B 06815
	BCE	CH12	1	06522 B
	BCE		6	06523 B 06667
	BCE	CH9	1	06529 B
	BCE		6	06530 B 06741
	BCE		1	06536 B
		S E6,ADDHLD	11	06537 S 09608 06931
	B	UPDATE	7	06548 J 06367
OL	MLNA	ADDHLD,*E11	12	06555 D 06931 06577 /
	MLCS	B0LOM,0	12	06567 D 06942 00000 3
	B	REDUCE	7	06579 J 06537
	CHSTR	B 0	7	06586 J 00000
	BPCB0	BCE *E32,B0LOM,2	12	06593 B 06636 06942 2
	MLNA	ADDHLD,*E11	12	06605 D 06931 06627 /
	MLCS	K2-4,0	12	06617 D 06922 00000 3
	B	REDUCE	7	06629 J 06537
	MLNA	ADDHLD,*E11	12	06636 D 06931 06658 /
	MLCS	K2-5,0	12	06648 D 06921 00000 3
	B	REDUCE	7	06660 J 06537
CH12	BCE	*E32,B0LOM,2	12	06667 B 06710 06942 2
	MLNA	ADDHLD,*E11	12	06679 D 06931 06701 /
	MLCS	K2-8,0	12	06691 D 06918 00000 3
	B	REDUCE	7	06703 J 06537
	MLNA	ADDHLD,*E11	12	06710 D 06931 06732 /
	MLCS	K2-9,0	12	06722 D 06917 00000 3
	B	REDUCE	7	06734 J 06537
CH9	BCE	*E32,B0LOM,2	12	06741 B 06784 06942 2
	MLNA	ADDHLD,*E11	12	06753 D 06931 06775 /
	MLCS	K2-10,0	12	06765 D 06916 00000 3
	B	REDUCE	7	06777 J 06537



W002 - PRINTER FOR MS CONTROL TEST
LABEL OP CODE OPERAND

CT ADDRS INSTRUCTION

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• PROGRAM CONSTANTS

CH1U	DCW	aXA	1 06946
CH2U	G	aMA	1 06947
		00	2 06949
CH1S	G	aRA	1 06950
CH2S	G	aXA	1 06951
		00	2 06953
SIZE		0	1 06954
CHSY		0	1 06955
ADD1		TINDIR	5 06960 06050
ADD2		START	5 06965 03062
ADD4		00382	5 06970
CHAIN		0	1 06971
ALPH		aAA	1 06972
NUM		aNA	1 06973
INDS		a148ABA	5 06978
WK11		a a	5 06983
ADD5		SKIPA	5 06988 04306
ADD6		SKIP1	5 06993 03711
ACCUM		000000	6 05999
TOTAL	G	180000	6 07005
TIMX	G	042	3 07008
TIME	G	121	3 07011
TIM10	G	149	3 07014
TIMEC		000	3 07017
SST		a a	1 07018
LOC		00000	5 07023
ORER		0	1 07024
RSTART		aJ020000 a.G	7 07025
WMGM		aMA	1 07033
ONE		1	1 07034
TWO		2	1 07035
THREE		3	1 07036
FOUR		4	1 07037
FIVE		5	1 07038

W002 - PRINTER FOR MS CONTROL TEST

OPCQD OPERAND

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CT ADDRS INSTRUCTION

LABEL

SIX	6
SEVEN	7
EIGHT	8
NINE	9
ZERO	0
	aNA
	aaa
	a 1a
	a 2a
	a 3a
	a 4a
	a 5a
	a 6a
	a 7a
	a 8a
	a 9a
	a10a
	a11a
	a12a
	AMODS
	AAA
	aBA
	aCA
	aDA
	aEA
	aFA
	aGA
	aHA
	aIA
	aQA
	aNA
	a.O
	aDA

1	07039
1	07040
1	07041
1	07042
1	07043
1	07044
1	07045
2	07047
2	07049
2	07051
2	07053
2	07055
2	07057
2	07059
2	07061
2	07063
2	07065
2	07067
2	07069
1	07070
1	07071
1	07072
1	07073
1	07074
1	07075
1	07076
1	07077
1	07078
1	07079
1	07080
1	07081

W002 - PRINTER FOR MS CONTROL TEST

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CT ADDRS INSTRUCTION
LABEL OPCOD OPERAND

MESS1	DCH	a SPACE 1 AFTER PRINTA.G	20 07082
MESS3		a SPACE 2 AFTER PRINTA.G	20 07103
MESS4		a SPACE 3 AFTER PRINTA.G	20 07124
MESS5		a SPACE 1 IMMEDIATE a.G	20 07145
MESS6		a SPACE 2 IMMEDIATE a.G	20 07166
MESS7		a SPACE 3 IMMEDIATE a.G	20 07187
MESS8		a SKIP TO CHANNEL IMMEDIATE a.G	31 07208
MESS9		a TEST BRANCH ON CHANNEL 9.1403 a.G	31 07240
MESS10		a TEST BRANCH ON CHANNEL 12.14032.G	31 07272
MESS11		a SKIP TO CHANNEL AFTER PRINTA.G	31 07304
MESS12		a TEST HIGH SPEED SKIP 2 TO 12 a.G	31 07336
MESS13		a HIGH SPEED SKIP O.K.	a.G
MESS14		a SPACE SUPPRESS PRINTER ERROR a.G	31 07368
MESS15		a SPACE SUPPRESS PRINTER XXXXX a.G	31 07400
MESS2		a 00000 1 00000 00000a.G	31 07432
		a 00000 2 000000000000a.G	20 07464
		a 00000 3 000000000000a.G	20 07504
		a 1111 1 1111111111a.G	20 07525
		a 1111 2 1111111112a.G	20 07546
		a 1111 3 1111111113a.G	20 07567
		a 2222 22 22222222 2222222222 a.G	31 07588
		a 7777 777777 77 7777777 9,77777 a.G	31 07620
		a 8888 888888 88 88888888 12.888888a.G	31 07652
		a 3333 33 3333333 333333333333a.G	31 07684
		a ----- ----- ----- 2 -- 12 a.G	31 07716
		a 0000 00000 00000 0.0.	a.G
		a //////////////// //////////////// a.G	31 07748
		a //////////////// //////////////// \$\$\$\$\$\$ a.G	31 07780
		ORG 9700	31 07812
	DA	1X132.G	31 07844
	ORG	9600	09700
	PST		09600
	END	2000	092000
			J02000
			5 09604 07024
			2 09606
			1 09607
			1 09608

SUMMARY

TITLE

W002 1403 Forms Control Test

PURPOSE

To test all possible forms control operations associated with a printed line such that a visual check for correctness can be made.

LOADING PROCEDURES

See Loading Procedures.

SYSTEM AND CHANNEL CONTROL CARDS

This program must have the system and channel configuration punched correctly. (See instruction in INTRODUCTORY MATERIAL.)

TADS

Do not enter any TADs for normal operation. Normally set OFF (1).

STANDARD TADS

<u>TAD</u>	<u>Location</u>				
TAD 0	01000	OFF	1	Typeout	
		ON	1	Bypass typeouts	
TAD 1	01001	OFF	1	Proceed to next routine	
		ON	1	Repeat the routine	
TAD 2	01002	OFF	1	Bypass error halts	
		ON	1	Halt on error	
TAD 3	01003	OFF	1	One pass of program	
		ON	1	Repeat program	

NO SPECIAL TADS ARE USED

UNITS TESTED

1403 Printer

SEE PROGRAM WRITE-UP FOR DETAILS.

